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unusually early date, as it is nothing uncommon to see the young flying about during the second week of May. The large majority of first sets are laid by April 25, at latest, but their habits are most irregular as I have found fresh sets on the following dates: April 23, May 25, June 4, and June 26, while young just out of the nest on May 28 would have made the eggs laid about May 5. Nor were those all the results of the first sets being broken up, as many of the birds were seen loitering around for over a month before starting in on nest building. That a second set is often laid, after the first brood has been raised is beyond a doubt, as several times in the case of late nests I have found near by the nest used for the first brood.

The nest found on April 22 is an excellent illustration of how little these birds fear mankind. It was found in a small park situated in the center of the city of Tacoma, and was placed in a small fir only ten feet over a path used by hundreds of people every day, and a favorite playground for children. This rule does not always hold good, however, as I have found nests situated at a distance of several miles from civilization.

The nest is a well built, bulky structure, the largest of any of our warblers, measuring externally 3.5 inches in width by 2.5 in depth; internal dimensions 2 inches in width by 1.5 inches in depth. It is very handsome, as a rule, being built of fir twigs, everlasting weed, rootlets, moss and dried grass, with a thick lining of horse hair and feathers. Its location is generally close to the main trunk on one of the large lower branches of some large, solitary

fir, or one of a grove of firs, on a dry, level prairie. I have never seen a nest placed otherwise than directly on a large branch, never in a crotch. It is always so well protected from the light that I have never been able to obtain a photograph. The nests are for some reason never placed far from the ground, the highest I have seen being twenty feet up, the lowest only six feet. There is never the slightest attempt at concealment, and they are so easy to see that almost every nest I have found has been a surprise to me in this respect.

All of the nests that I have seen contained four eggs as the complete set, but Mr. P. M. Silloway, of Montana, found a nest in the Flathead Lake region that differs in almost every respect from anything I have ever seen. It was placed in a crotch of a small willow tree and contained five eggs.

In coloring they vary to a considerable extent, though the ground color is always constant, as is the case with all the warblers eggs known to me. The ground color is a dead white, with a tinge of greenish that is invariably there though not particularly strong. The markings vary in different sets from small black spots sparingly scattered over the entire egg, to eggs handsomely ringed around the larger end with dots and blotches of red brown, black and lavender. In shape they vary from rather short ovate to long oval, while they are subject to considerable variation in dimensions. The largest egg in my collection measures .75x.55 inches, the smallest .67x.50 inches. A measurement of sixteen specimens shows an average of .70x.54 inches.

A Study of the Black-headed Grosbeak.

BY ANNA HEAD, BERKELEY, CAL.

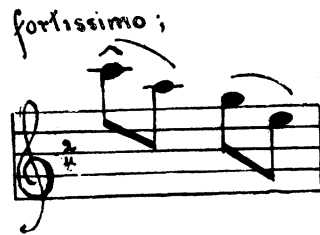
THE scene is a nook in the wooded Coast Range of Mendocino county, California. To the east rises the peak of Mt. Sanhedrim, snow-covered

till well into the summer, a secure retreat for deer, grouse and mountain quail. Clear, cold streams tumble through every gorge and crevice in the

pine-covered hills that surround the little valley. The mountain glades and wide pastures are edged with an open growth of oak, madrone and manzanita, —a veritable paradise for birds of a wood-loving nature, like the warblers, vireos and fly-catchers; while a small marsh bordered by willows gives a congenial home to water-lovers, the red-wing, the song-sparrow, and the long-tailed chat.

Bird music is to be heard in every direction, and the morning concert has no lack of star performers; the russet backed thrush, the western robin, the summer warbler, and the goldfinch being prominent. But among them all there is no more joyous, exuberant or constant singer than the black-headed grosbeak. The thrush is surely a soloist, and chooses the silence of evening or the darkest shades of the laurel-groves to transfigure with his golden chain of melody. But the grosbeak is not so exacting. He sings in the glare of the hottest noon, or in pouring rain; in the orchard or in the forest. His note seems the very voice of summer, as

that there are too many of him. Their voices can be heard from every little nook and side canyon, answering each other, or more often singing all at once, for they do not seem to have time to listen to what the other fellow has to say. Each pair has its particular haunt, and most of them some individual peculiarity of note, by which it can be known that they stay about the same spot. One which lives in a thicket to the south of the marsh has as the climax of his song frequently recurring certain of these notes, sung;



Another has a double series of triplets, the second on a lower pitch, to which might be set the syllables *bib-ble-y bub-ble-y*. A third repeats all this well marked melody:



the song-sparrow's is of the first spring day, of thawing brooks, greening meadows and budding willows.

There is no minor cadence in his music. The rhythm is distinct, lilting, like a dance of fays. He delights to pour it out, swinging on an oak twig above your head, with the bright sunshine lighting up his orange and black coat. At times he even shares the nature of the skylark in singing on the wing. I have seen one come winging across the hollow, airy spaces of the canyon, singing most gloriously all the way.

The grosbeaks are the most numerous of all birds here. In fact if a fault is to be found with this merry fellow, it is

If this bird were not such a merry, joyous singer, still his striking appearance and fearless, confiding nature should make him a favorite wherever he is known. His coloring is a striking combination of orange, black and pale yellow. The orange breast is the first thing to attract notice, contrasting as it does with the black head and back. Then, as he flits about, you notice the yellow lining of his dark wings, and the yellowish wing-bars. His mate, as she broods on her nest, shows her affinity to the sparrows, protective utility having prevented the upper surface from developing such striking contrasts as in the case of the male. She has a

neat combination of brown, blackish and white stripes on the head, not unlike *Zonotrichia leucophrys*, and dull irregular streakings on the back. But when she flies, she looks almost as gaudy as her mate, for her breast is a bright, tawny yellow, and her wings and tail are marked like his.

Their flight is wavy and finch-like, and as they fly their wings make a soft "p-r r-t—p-r r-t" like a canary's. As they flit about the tall oaks, which here have a drooping growth very like the eastern elm, nipping off the buds, they have a characteristic habit of springing to the end of a drooping spray and clinging there, back downward, looking much too heavy for such a position. They are usually found in white oaks or madrones, seeming to love the sunshine and the light, open foliage. I have never seen them alight on the ground, as the robin, which somewhat resembles the male in color, so often does.

The difference between the songs of different individuals have been already referred to. This strong individuality is a marked characteristic of the grosbeak, and one which makes them very attractive to those who watch him carefully. But in analyzing the song of any individual, you will also be astonished to find what a variety it contains. There are two entirely distinct types of song, so different that I am sure no one hearing them for the first time without seeing the bird, could imagine that they came from the same throat. The usual well-known song is loud and rollicking, a series sometimes of as many as sixty distinct phases of three or four notes, each with marked accent and great variety in the melody. The rhythm is the most noticeable thing, and that by which the song is recognized. From time to time, but only on very bright days, when the bird's heart is too full of joy for this ordinary means of expression, comes as an interlude, the second song, a truly rapturous out-pouring of the bird's soul. It is given in a

softer voice, a fine, high, clear quality of tone, full of retards and diminuendos, trills and shakes like the canary's highest notes. It reminds one of the minor interludes in one of Chopin's mazurkas, where the minor cadence and hesitating rhythm only serve to intensify the rapture of the mood. Like Chopin, he always returns from this land of sifting moonbeams and quivering, silvery light to the ordinary world of sun and action.

This secondary song has been well described by Olive Thorne Miller in "A Bird Lover in the West." The birds whose note most nearly resembles the grosbeak's are the robin, the oriole, and the tanager. Possibly the reason he is so little appreciated is that his song is often mistaken for the robin's and the credit given to the better known bird. I know that was what I did at first. I noticed one day that a certain "robin" had invented some new passages—trills and turns—in his song, and said to myself, "There is a robin of genius, I must look him up." But when I found the singer it was a grosbeak, and so it often happens, till I gradually learned to distinguish their notes. The robin's has far less variety, and is sung chiefly in early morning and evening.

Whatever the reason that the grosbeak is generally so little known and appreciated, anyone who will learn to know him thoroughly, will feel as I do, that he has a friend for life, and that a new joy has entered into the summer. I like to think of my last visit to my favorite pair, when, lying in the long grass, I watched the stars come out. The song of the male rang out well with the last rays of the sun, and after twittering softly to his mate on the nest he took up a place in a bush close to my head and sang a soft good-night. And so I leave them, safe in their very insignificance, lost without any effort at concealment, their home just like thousands of others among miles and miles of tree-covered mountains, unsought and unharmed.

Lierley's, June 8th, 1902.